In the claims:

1. (currently amended) A composite structure, comprising:

a substrate;

an interfacial barrier laminate formed of at least two layers and disposed over the substrate, wherein the at least two layers include ~~said interfacial barrier laminate comprises~~ at least one ceramic layer disposed adjacent the substrate and at least one metallic layer; and

a diamond coating disposed over ~~said~~the interfacial barrier laminate wherein the at least one metallic layer is partially converted into a carbide layer.

2. (currently amended) The composite structure according to claim 1 wherein the interfacial barrier laminate ~~contains an interfacial~~ includes at least a third layer selected from the group consisting of high recrystallization temperature amorphous nitrides, high recrystallization temperature amorphous borides, ~~and~~ high recrystallization temperature amorphous carbides, and combinations thereof.

3. (currently amended) The composite structure according to claim 2 wherein the ~~interfacial~~ at least a third layer is disposed between ~~said~~ the at least one ceramic layer and ~~said~~ the substrate.

4. (currently amended) The composite structure according to claim 1 wherein the ~~interfacial barrier laminate comprises an interfacial layer~~ at least one ceramic layer is selected from ~~the group consisting of~~ borides, nitrides and carbides of transition metals, and combinations thereof.

5. (currently amended) The composite structure according to claim 1 wherein the interfacial barrier laminate ~~comprises an interfacial~~ includes at least a third layer selected from ~~the group consisting of~~ TiC, TiCN, TiAl, TiN, CrN, CrC, ZrN, ZrC, WC, SiC, Si_3N_4, and combinations thereof.

6. (currently amended) The composite structure according to ~~of~~ claim 5 wherein the at least a third ~~interfacial~~ layer is disposed between ~~said~~ the at least one ceramic layer and ~~said~~ the substrate.

7. (currently amended) The composite structure according to claim 1 wherein the interfacial barrier laminate contains an interfacial layer of Al_2O_3 ~~Al_2O_3~~ disposed between the at least one ceramic layer and the substrate.

8. (cancelled)

9. (currently amended) The composite structure according to claim 1 wherein the at least one metallic layer is ~~interfacial barrier laminate contains an interfacial layer~~ selected from ~~a group consisting of~~ Cr, Ti, Zr, W, Ni, ~~and Si~~ and combinations thereof.

10. (original) The composite structure according to claim 1 wherein the interfacial barrier laminate is between 2 μm and 15 μm thick.

11. (original) The composite structure according to claim 1 wherein the interfacial barrier laminate is between 5 μm and 10 μm thick.

12. (currently amended) The composite structure according to claim 1 wherein ~~said~~ the at least one ceramic layer of ~~said~~ the interfacial barrier laminate is between 2 μm and 5 μm thick.

13. (currently amended) The composite structure according to claim 1 wherein ~~said~~ the at least one metallic layer of ~~said~~ the interfacial barrier laminate is between 2 μm and 7 μm thick.

14. (currently amended) The composite structure according to claim 1 wherein ~~said~~ the carbide layer of ~~said~~ the at least one metallic ~~metal~~ layer is between 1 μm and 3 μm thick and faces ~~said~~ the diamond coating.

15. (currently amended) A composite laminate, comprising:

a carbon-sensitive substrate;

an interfacial barrier laminate configured to inhibit the diffusion of carbon, ~~said~~ the interfacial barrier laminate formed of at least two layers including ~~comprising~~ a metallic layer and a ceramic layer, ~~said~~ the ceramic layer being disposed adjacent ~~said~~ the carbon-sensitive substrate; ~~and~~

a carbide-rich coating disposed over ~~said~~ the interfacial barrier laminate; and

a diamond layer disposed over the carbide-rich coating.

16. (currently amended) The composite laminate according to claim 15 wherein the interfacial barrier laminate ~~comprises an interfacial~~ includes at least a third layer selected from the group consisting of high recrystallization temperature amorphous nitrides, high recrystallization temperature amorphous borides, ~~and~~ high recrystallization temperature amorphous carbides, and combinations thereof ~~disposed between said ceramic and said substrate~~.

17. (currently amended) The composite laminate according to claim 15 wherein the ~~interfacial barrier laminate comprises an interfacial layer~~ ceramic layer is selected from the group consisting of borides, nitrides and carbides of transition metals, and combinations thereof.

18. (currently amended) The composite laminate according to claim 15 wherein the interfacial barrier laminate ~~comprises an interfacial~~ includes at least a third layer disposed between the ~~said~~ substrate and the carbide-rich coating, wherein the at least a third layer is ~~said carbide layer~~ selected from ~~the group consisting of~~ TiC, TiCN, TiAl, TiN, CrN, CrC, ZrN, ZrC_x and combinations thereof.

19. (currently amended) The composite laminate according to claim 15 wherein the interfacial barrier laminate comprises an interfacial layer of Al_2O_3 ~~Al_2O_3~~ disposed between ~~said~~ the substrate and ~~said~~ the carbide-rich coating ~~layer~~.

20. (currently amended) The composite laminate according to claim 15 wherein the metallic layer is ~~interfacial barrier laminate comprises an interfacial layer~~ selected from ~~the group consisting of~~ Cr, Ti, Zr, ~~Si,~~ W, Ni, and combinations thereof, and wherein the metallic layer is disposed between ~~said~~ the ceramic layer ~~substrate~~ and ~~said~~ the carbide-rich coating ~~layer~~.

21. (currently amended) The composite laminate according to claim 15 wherein the metallic layer of the interfacial barrier laminate is a metal which forms carbides in the presence of carbon.

22. (currently amended) The composite laminate according to claim 15 wherein the interfacial barrier laminate is between 5 μm and 10 μm thick.

23. (cancelled)

24. (cancelled)

25. (original) The composite laminate according to claim 15 wherein the substrate comprises steel.

26. (currently amended) The composite laminate according to claim 15 wherein the substrate comprises cemented carbide.

27. (withdrawn) A cutting tool comprising:

a carbon sensitive substrate;

a ceramic layer disposed over the carbon sensitive substrate configured to inhibit the diffusion of carbon;

a metallic layer disposed over the ceramic layer;

a carbide layer disposed over said metallic layer; and

a diamond layer disposed over said carbide layer.

28. (withdrawn) The cutting tool according to claim 27 wherein the carbon sensitive substrate is steel.

29. (withdrawn) The cutting tool according to claim 28 wherein steel is heat-treated after the diamond deposition, resulting in a substrate with a martensite structure.

30. (withdrawn) The cutting tool according to claim 27 wherein the carbon sensitive substrate is cemented carbide.

31. (withdrawn) The cutting tool according to claim 27 comprising an interfacial layer disposed between said substrate and said diamond layer selected from the group consisting of borides, nitrides and carbides of transition materials and combinations thereof.

32. (withdrawn) The cutting tool according to claim 27 comprising an interfacial layer selected from the group consisting of TiC, TiCN, TiAl, TiN, CrN, CrC, ZrN, ZrC and combinations thereof disposed between said substrate and said diamond layer.

33. (withdrawn) The cutting tool insert according to claim 27 comprising an interfacial layer of Al_2O_3 disposed between said substrate and said diamond layer.

34. (withdrawn) The cutting tool according to claim 27 comprising an interfacial layer selected from the group consisting of Cr, Ti, Zr, and Si and combinations thereof disposed between said substrate and said diamond layer.

35. (withdrawn) The cutting tool according to claim 27 further comprising a layer of mixed sp2- and sp3-bonded carbon.

36. (withdrawn) A method of forming a composite structure comprising the steps of:

providing carbon sensitive substrate;

disposing a layer of ceramic on the substrate;

disposing a layer of metal on the ceramic;

disposing a layer of material containing carbon on the metal under conditions sufficient to convert a portion of the layer of metal into carbide.

37. (withdrawn) The method according to claim 36 wherein providing a carbon sensitive substrate is providing one of steel or cemented carbide.

38. (withdrawn) The method according to claim 36 further comprising the step of heat treating the composite structure.

39. (withdrawn) The method according to claim 36 wherein disposing a layer of metal is disposing a layer of metal between 2 μm and 7 μm thick.

40. (withdrawn) The method according to claim 36 wherein disposing a layer of carbon is disposing a layer of material containing carbon such that between 1 μm and 3 μm of metal is converted into carbide.

41. (withdrawn) The method according to claim 36 wherein disposing a layer of carbon is disposing a layer of diamond.

42. (new) The composite structure according to claim 1 wherein the interfacial barrier laminate comprises at least two ceramic layers.

43. (new) The composite structure according to claim 1 wherein the interfacial barrier laminate comprises at least two metallic layers.

44. (new) The composite laminate according to claim 15 wherein the interfacial barrier laminate comprises at least two ceramic layers.

45. (new) The composite laminate according to claim 15 wherein the interfacial barrier laminate comprises at least two metallic layers.